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IBM Technical Disclosure Bulletins

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DB Name	Query	Hit Count	Set Name
USPT,JPAB,EPAB,DWPI,TDBD	l14 and l16	0	L19
USPT,JPAB,EPAB,DWPI,TDBD	l15 and l14	0	L18
USPT,JPAB,EPAB,DWPI,TDBD	l15 and l11	2	L17
USPT,JPAB,EPAB,DWPI,TDBD	l15 and l12	68	L16
USPT,JPAB,EPAB,DWPI,TDBD	accase or ahas or (acetyl coa carboxylase) or (acetylcoa carboxylase) or (acetyl coacarboxylase) or acetylcoacarboxylase or acetohydroxyacid	878	L15
USPT,JPAB,EPAB,DWPI,TDBD	l10 and l9	75	L14
USPT,JPAB,EPAB,DWPI,TDBD	l10 and l8	12	L13
USPT,JPAB,EPAB,DWPI,TDBD	l10 and l7	174	L12
USPT,JPAB,EPAB,DWPI,TDBD	l10 and l6	101	L11
USPT,JPAB,EPAB,DWPI,TDBD	resistant or resistance	1812554	L10
USPT,JPAB,EPAB,DWPI,TDBD	l1 and l5	361	L9
USPT,JPAB,EPAB,DWPI,TDBD	l1 and l4	25	L8
USPT,JPAB,EPAB,DWPI,TDBD	l1 and l3	489	L7
USPT,JPAB,EPAB,DWPI,TDBD	l1 and l2	429	L6
USPT,JPAB,EPAB,DWPI,TDBD	fenoxaprop	588	L5
USPT,JPAB,EPAB,DWPI,TDBD	imazamox	35	L4
USPT,JPAB,EPAB,DWPI,TDBD	clethodim or sethoxydim	630	L3
USPT,JPAB,EPAB,DWPI,TDBD	fluazifop or quizalofop	620	L2
USPT,JPAB,EPAB,DWPI,TDBD	glyphosate OR (roundup or spasor or muster or glifonox or glycel) OR (phosphonomethylglycine or ((phosphonomethyl or (phosphono methyl)) glycine))	3900	L1

L16: Entry 6 of 68 File: USPT Feb 22, 2000

DOCUMENT-IDENTIFIER: US 6028252 A
TITLE: Soybean variety 90B43

BSPR:
The present invention relates to a new and distinctive soybean variety, designated 90B43 which has been the result of years of careful breeding and selection. There are numerous steps in the development of any novel, desirable plant germplasm. Plant breeding begins with the analysis and definition of problems and weaknesses of the current germplasm, the establishment of program goals, and the definition of specific breeding objectives. The next step is selection of germplasm that possess the traits to meet the program goals. The goal is to combine in a single variety an improved combination of desirable traits from the parental germplasm. These important traits may include higher seed yield, resistance to diseases and insects, tolerance to drought and heat, and better agronomic qualities.

BSPR:
Backcross breeding has been used to transfer genes for simply inherited, highly heritable traits into a desirable homozygous variety or inbred line that is utilized as the recurrent parent. The source of the traits to be transferred is called the donor parent. After the initial cross, individuals possessing the desired traits of the donor parent are selected and repeatedly crossed (backcrossed) to the recurrent parent. The resulting plant is expected to have the attributes of the recurrent parent (e.g., variety) and the desirable traits transferred from the donor parent. This approach has been used extensively for breeding disease resistant varieties.

BSPR:
LDG=LODGING RESISTANCE. Lodging is rated on a scale of 1 to 9. A score of 9 indicates erect plants. A score of 5 indicates plants are leaning at a 45.degree. angle in relation to the ground and a score of 1 indicates plants are laying on the ground.

BSPR:
The oldest and most traditional method of analysis is the observation of phenotypic traits. The data is usually collected in field experiments over the life of the soybean plants to be examined. Phenotypic characteristics most often observed are for traits associated with seed yield, seed protein and oil content, lodging resistance, disease resistance, maturity, plant height, and shattering.

BSPR:
Soybean variety 90B43 is a purple flowered, soybean variety with gray pubescence and yellow hila. The variety exhibits outstanding yield potential. Soybean variety 90B43 exhibits multi-race Phytophthora tolerance as well as superior iron deficiency chlorosis resistance. Variety 90B43 possesses the Rps1C gene which confers resistance to races 1-3, 6-11, 13, 15, 17, 21, 23, 24, 26, 28-30, and 32. This Phytophthora resistance is unique for 90B43's very early maturity group. 90B43 further demonstrates excellent standabiltiy. The variety is particularly suited to the North Central, and Northern Plains, including the Red River Valley, Regions of the United States. There are few other varieties at this relative maturity and even fewer with the Phytophtora tolerance that this variety exhibits.

BSPR:
One commonly used selectable marker gene for plant transformation is the neomycin phosphotransferase II (nptII) gene, isolated from transposon Tn5, which when

placed under the control of plant regulatory signals confers resistance to kanamycin. Fraley et al., Proc. Natl. Acad. Sci. U.S.A., 80; 4803 (1983). Another commonly used selectable marker gene is the hygromycin phosphotransferase gene which confers resistance to the antibiotic hygromycin. Vanden Elzen et al., Plant Mol. Biol., 5: 299 (1985).

BSPR:
Additional selectable marker genes of bacterial origin that confer resistance to antibiotics include gentamycin acetyl transferase, streptomycin phosphotransferase, aminoglycoside-3'-adenyl transferase, the bleomycin resistance determinant. Hayford et al., Plant Physiol. 86: 1216 (1988), Jones et al., Mol. Gen. Genet., 210: 86 (1987), Svab et al., Plant Mol. Biol. 14: 197 (1990), Hille et al., Plant Mol. Biol. 7:171 (1986). Other selectable marker genes confer resistance to herbicides such as glyphosate, glufosinate or broxynil. Comai et al., Nature 317: 741-744 (1985), Gordon-Kamm et al., Plant Cell 2: 603-618 (1990) and Stalker et al., Science 242; 419-423 (1988).

BSPR:
Another class of marker genes for plant transformation require screening of presumptively transformed plant cells rather than direct genetic selection of transformed cells for resistance to a toxic substance such as an antibiotic. These genes are particularly useful to quantify or visualize the spatial pattern of expression of a gene in specific tissues and are frequently referred to as reporter genes because they can be fused to a gene or gene regulatory sequence for the investigation of gene expression. Commonly used genes for screening presumptively transformed cells include .beta.-glucuronidase (GUS), .beta.-galactosidase, luciferase and chloramphenicol acetyltransferase. Jefferson, R. A., Plant Mol. Biol. Rep. 5: 387 (1987), Teeri et al., EMBO J. 8: 343 (1989), Koncz et al., Proc. Natl. Acad. Sci. U.S.A. 84:131 (1987), De Block et al., EMBO J. 3: 1681 (1984).

BSPR:
(A) Plant disease resistance genes. Plant defenses are often activated by specific interaction between the product of a disease resistance gene (R) in the plant and the product of a corresponding avirulence (Avr) gene in the pathogen. A plant variety can be transformed with cloned resistance gene to engineer plants that are resistant to specific pathogen strains. See, for example Jones et al., Science 266: 789 (1994) (cloning of the tomato Cf-9 gene for resistance to Cladosporium fulvum); Martin et al., Science 262: 1432 (1993) (tomato Pto gene for resistance to Pseudomonas syringae pv. tomato encodes a protein kinase); Mindrinos et al., Cell 78: 1089 (1994) (Arabidopsis RSP2 gene for resistance to Pseudomonas syringae).

BSPR:
(B) A gene conferring resistance to a pest, such as soybean cyst nematode. See e.g. PCT Application WO96/30517; PCT Application WO93/19181.

BSPR:
(M) A hydrophobic moment peptide. See PCT application WO95/16776 (disclosure of peptide derivatives of Tachyplesin which inhibit fungal plant pathogens) and PCT application WO95/18855 (teaches synthetic antimicrobial peptides that confer disease resistance), the respective contents of which are hereby incorporated by reference.

BSPR:
(N) A membrane permease, a channel former or a channel blocker. For example, see the disclosure by Jaynes et al., Plant Sci. 89: 43 (1993), of heterologous expression of a cecropin-.beta., lytic peptide analog to render transgenic tobacco plants resistant to Pseudomonas solanacearum.

BSPR:
(O) A viral-invasive protein or a complex toxin derived therefrom. For example, the accumulation of viral coat proteins in transformed plant cells imparts resistance to viral infection and/or disease development effected by the virus from which the coat protein gene is derived, as well as by related viruses. See Beachy et al., Ann. Rev. Phytopathol. 28: 451 (1990). Coat protein-mediated resistance has been conferred upon transformed plants against alfalfa mosaic virus, cucumber mosaic virus, tobacco streak virus, potato virus X, potato virus Y, tobacco etch virus, tobacco rattle virus and tobacco mosaic virus. Id.

BSPR:
(S) A developmental-arrestive protein produced in nature by a plant. For example, Logemann et al., Bio/Technology 10: 305 (1992), have shown that transgenic plants expressing the barley ribosome-inactivating gene have an increased resistance to fungal disease.

BSPR:
(A) A herbicide that inhibits the growing point or meristem, such as an imidazalinone or a sulfonylurea. Exemplary genes in this category code for mutant ALS and AHAS enzyme as described, for example, by Lee et al., EMBO J. 7: 1241 (1988), and Miki et al., Theor. Appl. Genet. 80: 449 (1990), respectively.

BSPR:
(B) Glyphosate (resistance imparted by mutant 5-enolpyruvl-3-phosphikimate synthase (EPSP) and aroA genes, respectively) and other phosphono compounds such as glufosinate (phosphinothricin acetyl transferase, PAT) and Streptomyces hygroscopicus phosphinothricin-acetyl transferase, bar, genes), and pyridinoxy or phenoxy proprionic acids and cycloshexones (ACCase inhibitor-encoding genes). See, for example, U.S. Pat. No. 4,940,835 to Shah et al., which discloses the nucleotide sequence of a form of EPSP which can confer glyphosate resistance. A DNA molecule encoding a mutant aroA gene can be obtained under ATCC accession No. 39256, and the nucleotide sequence of the mutant gene is disclosed in U.S. Pat. No. 4,769,061 to Comai. European patent application No. 0 333 033 to Kumada et al. and U.S. Pat. No. 4,975,374 to Goodman et al. disclose nucleotide sequences of glutamine synthetase genes which confer resistance to herbicides such as L-phosphinothricin. The nucleotide sequence of a phosphinothricin-acetyl-transferase gene is provided in European application No. 0 242 246 to Leemans et al. De Greef et al., Bio/Technology 7: 61 (1989), describe the production of transgenic plants that express chimeric bar genes coding for phosphinothricin acetyl transferase activity. Exemplary of genes conferring resistance to phenoxy proprionic acids and cycloshexones, such as sethoxydim and haloxyfop, are the Acc1-S1, Acc1-S2 and Acc1-S3 genes described by Marshall et al., Theor. Appl. Genet. 83: 435 (1992).

BSPU:
1. Genes That Confer Resistance To Pests or Disease And That Encode:

BSPU:
2. Genes That Confer Resistance To A Herbicide, For Example:

BSTL:
TABLE 1 _____ VARIETY DESCRIPTION INFORMATION 90B43 _____ A. Mature Seed Characteristics: Seed Coat Color: yellow Seed Coat Luster: dull Seed Size (grams per 100 seeds): 17 Hilum Color: yellow Cotyledon Color: yellow B. Leaf: Leaflet Shape: ovate Leaf Color: medium green C. Plant Characteristics: Flower Color: purple Pod Color: tan Plant Pubescence Color: Gray Plant Types: bushy Plant Habit: indeterminate Maturity Group: 04 D. Bacterial Diseases (S = susceptible R = resistant) E. Fungal Diseases (S = susceptible R = resistant) Phytophthora Rot (Phytophthora megasperma var. sojae): Race 1: R Race 2: R Race 3: R Race 4: S Race 7: R F. Viral Diseases (S = susceptible R = resistant) Bud Blight (Tobacco Ringspot Virus): S Yellow Mosaic (Bean Yellow Mosaic Virus): S Cowpea Mosaic (Cowpea Chlorotic Virus): S Pod Mottle (Bean Pod Mottle Virus): S Seed Mottle (Soybean Mosaic Virus): S G. Nematode Diseases (S = susceptible R = resistant) Soybean Cyst Nematode Race 3: S Iron Chlorosis: R Submitted Seed Content (% Protein) 35 Submitted Seed Content (% Oil) 19 _____ (PVP Certificate No.) is a Pioneer HiBred International, Inc. proprietary variety. Publications useful as references in interpreting Table 1 include: Caldwell, B. E. ed. 1973. "Soybeans: Improvement, Production, and Uses" Amer. Soc. Agron. Monograph No. 16; Buttery, B. R., and R. I. Buzzell 1968. "Peroxidase Activity in Seed of Soybean Varieties" Crop Sci. 8: 722-725; Hymowitz, T. 1973. "Electrophoretic analysis of SBTIA2 in the USDA Soybea Germplasm Collection" Crop Sci., 13: 420-421; Payne R. C., and L. F. Morris, 1976. "Differentiation of Soybean Varietie by Seedling Pigmentation Patterns" J. Seed. Technol. 1: 1-19. The disclosures of which are each incorporated by reference in their entirety

DEPR:
The results in table 2A compare Soybean variety 90B43 with another similarly

adapted Pioneer brand soybean variety, 9007. The results indicate that variety 90B43 is significantly higher yielding than variety 9007. Variety 90B43 is also significantly later to mature with a much smaller predicted relative maturity score than variety 9007. Variety 90B43 also demonstrates a significantly higher seed oil content as well as a significantly superior resistance to iron deficiency chlorosis than variety 9007. While not specifically shown in the table, Variety 9007 possesses the Rps1A gene which confers different races of Phytophthora resistance (races 1, 2, 10, 11, 13-18, 24, 26, 27 31, and 32) than the Rps1C gene possessed by variety 90B43 (races 1-3, 6-11, 13, 15, 17, 21, 23, 24, 26, 28-30, and 32).

DEPR:
The results in table 2B compare Soybean variety 90B43 with another similarly adapted Pioneer brand soybean variety, 9008. The results show that variety 90B43 is significantly higher yielding than variety 9008. Variety 90B43 is also later to mature with a much smaller predicted relative maturity score than variety 9008. Variety 90B43 also demonstrates a significantly taller plant stature than variety 9008. Variety 90B43 demonstrates somewhat superior resistance to iron deficiency chlorosis than variety 9008. While not specifically shown in the table, variety 9008 has no gene which confers multi race Phytophthora resistance, while variety 90B43 possesses the Rps1C gene.

DEPR:
The results in table 2C compare Soybean variety 90B43 with another similarly adapted Pioneer brand soybean variety, 9041. The results indicate that variety 90B43 is significantly higher yielding than variety 9041. Variety 90B43 is also significantly later to mature than variety 9041. While not specifically shown in the table, Variety 9041 possesses the Rps1A gene which confers different races of Phytophthora resistance (races 1, 2, 10, 11, 13-18, 24, 26, 27 31, and 32) than the Rps1C gene possessed by variety 90B43 (races 1-3, 6-11, 13, 15, 17, 21, 23, 24, 26, 28-30, and 32).

DEPR:
The results in table 2D compare Soybean variety 90B43 with another similarly adapted Pioneer brand soybean variety, 9042. The results show that variety 90B43 is significantly higher yielding than variety 9042. Variety 90B43 also demonstrates significantly superior resistance to lodging than variety 9042. While not specifically shown in the table, Variety 9007 possesses the Rps1A gene which confers different races of Phytophthora resistance (races 1, 2, 10, 11, 13-18, 24, 26, 27 31, and 32) than the Rps1C gene possessed by variety 90B43 (races 1-3, 6-11, 13, 15, 17, 21, 23, 24, 26, 28-30, and 32).

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Patent and Trademark Office

22428

SEARCH REQUEST FORM

Examiner # (Mandatory): 69462 Requester's Full Name: Mark Clarke

Art Unit 1616 Location (Bldg/Room#): CM1-2D11 Phone (circle 305 306 308) 4550

Serial Number: 09/264,775 Results Format Preferred (circle): PAPER DISK E-MAIL

Title of Invention _____

Inventors (please provide full names): attached

Earliest Priority Date: _____

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TECHNOLOGY CENTER (STIC)

Keywords (include any known synonyms registry numbers, explanation of initialisms):

AHAS = acetohydroxy acid synthase 9027-45-6
ACCase = acetyl Co-A carboxylase 9023-93-2
glyphosate tolerance

claims & biblio. data attached

Search Topic:

Please write detailed statement of the search topic, and the concept of the invention. Describe as specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples of relevant citations, authors, etc., if known. You may include a copy of the abstract and the broadcast or most relevant claim(s).

Herbicidal composition comprising:
1) glyphosate
2) a 2nd herbicide which inhibits either ACC-ase or AHAS:
i.e.: fluazifop, quizalofop, clethodim, sethoxydim, imazamox, fenoxaprop
Methods of use in glyphosate tolerant crops (cl. 9)

STAFF USE ONLY

Searcher: _____
Searcher Phone #: 44458
Searcher Location: _____
Date Picked Up: 12/11
Date Completed: 12/13
Clerical Prep Time: 10
Terminal Time: 25/45
Number of Databases: 4

Type of Search

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_____ A.A. Sequence
✓ Structure (#)
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_____ Litigation1
_____ Fulltext
_____ Procurement
_____ Other

Vendors (include cost where applicable)

✓ STN
_____ Questel/Orbit
— Lexis/Nexis
_____ WWW/Internet
_____ In-house sequence systems (list)
_____ Dialog
_____ Dr. Link
_____ Westlaw
_____ Other (specify)

PTO-1590 (2-99)

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               SET AUHELP OFF

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               E GLYPHOSATE/CN
L2             1 S E3
               E C3H8NO5P/MF
               E FLUAZIFOP/CN
L3             1 S E3
               E C15H12F3NO4/MF
L4            13 S E3 AND NC5/ES AND 46.150.18/RID AND 2/NR
L5             2 S L4 AND (2R OR S)
L6             3 S L3,L5
               E QUIZALOFOP/CN
L7             1 S E3
               E C17H13CLN2O4/MF
L8             9 S E3 AND NC2NC2-C6/ES AND 46.150.18/RID AND 3/NR
L9             7 S L8 NOT (ESTER OR QUINOXALINECARBOXYLIC)
L10            4 S L9 NOT 6 CHLORO
L11            1 S L10 AND IDS/CI
L12            3 S L9 NOT L10
L13            4 S L7,L11,L12
               E CLETHODIM/CN
L14            1 S E3
               E C17H26CLNO3S/MF
L15           12 S E3 AND C6/ES AND 1/NR
L16            4 S L15 NOT 46.150.18/RID
L17            2 S L16 NOT 3 CYCLOHEX?
L18            2 S L14,L17
               E SETHOXYDIM/CN
L19            1 S E3
               E C17H20NO3S/MF
               E C17H29NO3S/MF
L20            8 S E3 AND C6/ES NOT 46.150.18/RID
L21            3 S L20 NOT 3 CYCLOHEX?
L22            2 S L21 NOT SC5/ES
               E IMAZAMOX/CN
L23            1 S E3
               E C15H19N3O4/MF
L24           13 S E3 AND NCNC2/ES AND NC5/ES AND 2/NR
L25            3 S L24 AND METHOXYMETHYL
L26            2 S L25 NOT 6
L27            2 S L23,L26
               E FENOXAPROP/CN
L28            1 S E3
L29            3 S 1113776-21-9 OR 113158-40-0 OR 95617-09-7 OR 73519-45-6
L30            2 S L29 NOT 5 CHLORO
L31            2 S L28,L30
L32            1 S 113776-21-9
L33            3 S L31,L32
L34           14 S L6,L12,L18,L19,L27,L33
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L36         1242 S L34
L37         1449 S FLUAZIFOP OR QUIAZLOFOP OR CLETHODIM OR SETHOXYDIM OR IMAZAMO
L38         1708 S L36,L37
L39         2470 S L1
L40          601 S (ACETOLACTATE OR ACETOLACTIC OR ACETO()(LACTATE OR LACTATE))
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L41          275 S (ACETOHYDROXY OR ACETO HYDROXY) () ACID () (SYNTHETASE OR SYN
L42          178 S ACETOHYDROXYACID () (SYNTHETASE OR SYNTHASE)
L43         2039 S ACETYL () (COA OR COENZYME A) () CARBOXYLASE
L44         3131 S L39-L43
L45         4035 S L2 OR GLYPHOSATE
L46           16 S L39 AND L45
L47           16 S L44 AND L46
L48          659 S L39 AND (SYNERG? OR MIX? OR COMBIN? OR COMPOSITION)
L49          659 S L48 AND L44
L50            3 S L48 AND L45
L51            3 S L49 AND L50
                 E FLINT J/AU
L52           24 S E3,E7,E14,E15
                 E PROBST N/AU
L53            7 S E3,E7
                 E GUBBIGA N/AU
L54            5 S E4
L55            1 S L52-L54 AND L38
L56            0 S L52-L54 AND L44
L57            3 S L52-L54 AND L45
L58            3 S L55,L57
L59            2 S L51 NOT MRNA/TI
L60            2 S L45 AND NONGLYPHOSATE
L61         1439 S L45 AND (MIX? OR SYNERG? OR COMPOSITION OR COMBIN? OR FORMUL?
L62            6 S L61 AND L44
L63            6 S L62 NOT L58,L60
L64            5 S L63 NOT MRNA/TI
L65           10 S L58,L60,L64

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             SEL RN L58

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L67            1 S 81591-80-2
L68            2 S L2,L67
               SEL RN
L69          577 S E17-E18/CRN
               SEL RN L34
L70          374 S E19-E32/CRN
L71            0 S L68 AND L70
L72            8 S L69 AND L70

FILE 'HCAOLD' ENTERED AT 09:51:44 ON 13 DEC 1999
L73            0 S L72

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L74            3 S L72
L75            5 S L74,L58

FILE 'USPATFULL' ENTERED AT 09:52:09 ON 13 DEC 1999
L76            0 S L72

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 09:52:35 ON 13 DEC 1999
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1967 - 13 Dec 1999 VOL 131 ISS 25

FILE LAST UPDATED: 12 Dec 1999 (19991212/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> d all tot l75 hitstr

L75 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 1999 ACS
AN 1999:594855 HCAPLUS
DN 131:195769
TI Mixtures for weed control in **glyphosate**-tolerant soybean
IN **Flint, Jerry L.; Probst, Norman J.; Gubbiga, Nagabhushana G.**
PA Monsanto Company, USA
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A01N057-20
ICS A01N057-20; A01N043-76; A01N043-60; A01N043-50; A01N043-40; A01N035-10
CC 5-3 (Agrochemical Bioregulators)
FAN.CNT 1

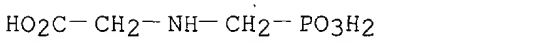
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9945781	A1	19990916	WO 1999-US5089	19990309

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 1998-PV77241 19980309
AB The present invention is directed to tank mixts. and premixts. of a **glyphosate** herbicide and a second herbicide to which a first species is susceptible and a second species is resistant. Such tank mixts. and premixts. allow control of **glyphosate**-susceptible weeds and **glyphosate**-tolerant volunteer individuals of the first species in a crop of **glyphosate**-tolerant second species with a single application of herbicide. Particularly, the invention relates to the control of volunteer **glyphosate**-tolerant corn in a crop of **glyphosate**-tolerant soybean.
ST weed control **glyphosate** tolerant soybean
IT Soybean (Glycine max)
(**glyphosate**-tolerant; weed control in)
IT Weed control (herbicidal)
(mixts. for weed control in **glyphosate**-tolerant soybean)
IT Corn
(volunteer; control in **glyphosate**-tolerant soybean)
IT **1071-83-6D, Glyphosate**, mixts. contg.
242132-22-5, Glyphosate-fluazifop mixt.
242132-23-6, Glyphosate-quizalofop mixt.
242132-24-7 242132-25-8 242132-26-9
242132-27-0 242132-28-1 242143-59-5, Fusilade DX-Touchdown mixt.
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(weed control in **glyphosate**-tolerant soybean by)
IT **1071-83-6D, Glyphosate**, mixts. contg.

242132-22-5, Glyphosate-fluazifop mixt.
242132-23-6, Glyphosate-quizalofop mixt.
242132-24-7 242132-25-8 242132-26-9
242132-27-0
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(weed control in **glyphosate**-tolerant soybean by)

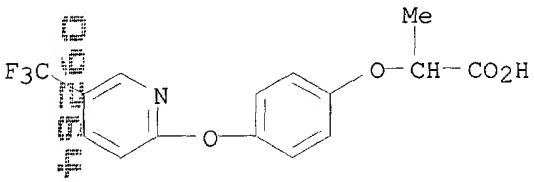
RN 1071-83-6 HCAPLUS
CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 242132-22-5 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, mixt. with 2-[4-[[5-(trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propanoic acid (9CI) (CA INDEX NAME)

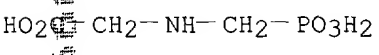
CM 1

CRN 69335-91-7
CMF C15 H12 F3 N O4



CM 2

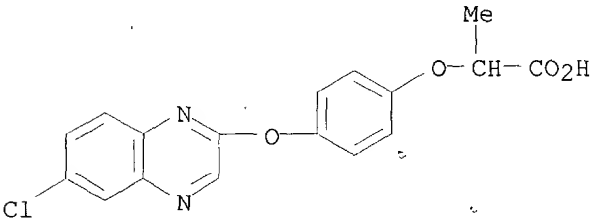
CRN 1071-83-6
CMF C3 H8 N O5 P



RN 242132-23-6 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, mixt. with 2-[4-[(6-chloro-2-quinoxalinyl)oxy]phenoxy]propanoic acid (9CI) (CA INDEX NAME)

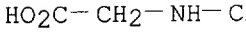
CM 1

CRN 76578-12-6
CMF C17 H13 Cl N2 O4



CM 2

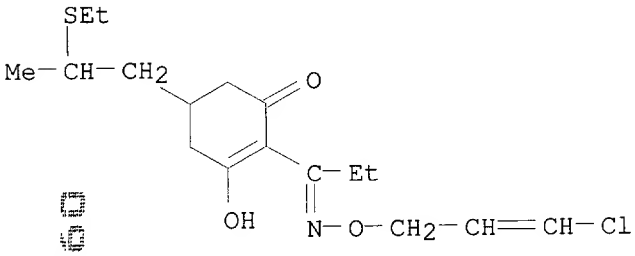
CRN 1071-83-6
CMF C3 H8 N O5 P



RN 242132-24-7 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, mixt. with 2-[1-[[(3-chloro-2-propenyl)oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one (9CI) (CA INDEX NAME)

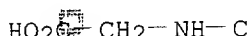
CM 1

CRN 99129-21-2
CMF C17 H26 Cl N O3 S
CDES *



CM 2

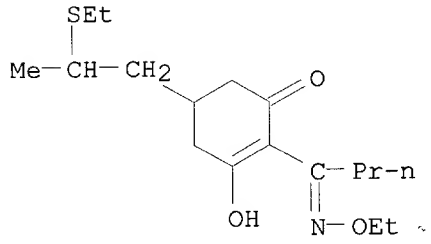
CRN 1071-83-6
CMF C3 H8 N O5 P



RN 242132-25-8 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, mixt. with 2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one (9CI) (CA INDEX NAME)

CM 1

CRN 74051-80-2
CMF C17 H29 N O3 S



CM 2

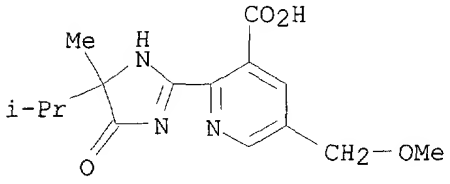
CRN 1071-83-6
CMF C3 H8 N O5 P

$HO_2C-CH_2-NH-CH_2-PO_3H_2$

RN 242132-26-9 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, mixt. with 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid (9CI) (CA INDEX NAME)

CM 1

CRN 114311-32-9
CMF C15 H19 N3 O4



CM 2

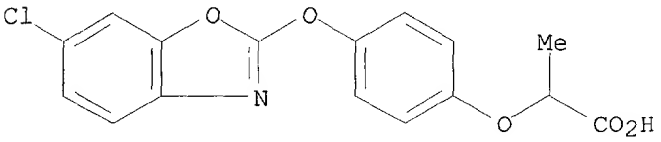
CRN 1071-83-6
CMF C3 H8 N O5 P

$HO_2C-CH_2-NH-CH_2-PO_3H_2$

RN 242132-27-0 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, mixt. with 2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]propanoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 95617-09-7
CMF C16 H12 Cl N O5



CM 2

CRN 1071-83-6
CMF C3 H8 N O5 P

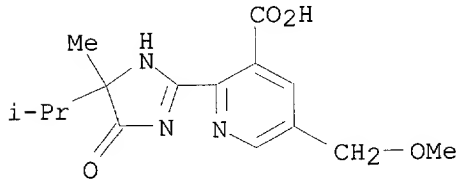
$HO_2C-CH_2-NH-CH_2-PO_3H_2$

L75 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 1999 ACS
AN 1999:561282 HCAPLUS
DN 131:224816
TI Purple nutsedge (Cyperus rotundus) and sicklepod (Senna obtusifolia) response to glyphosate mixtures with ALS-inhibiting herbicides

AU Rao, A. Subrahmanyeswara; Reddy, Krishna N.
CS Food and Agriculture Organization Fellow and Plant Physiologist, Southern, Agricultural Research Service, Stoneville, MS, 38776, USA
SO Weed Technol. (1999), 13(2), 361-366
CODEN: WETEE9; ISSN: 0890-037X
PB Weed Science Society of America
DT Journal
LA English
CC 5-3 (Agrochemical Bioregulators)
AB Greenhouse studies were conducted to evaluate potential interactions among glyphosate mixts. with five acetolactate synthase (ALS)-inhibiting herbicides (chlorimuron, imazamox, imazaquin, MON 12,000, or pyrithiobac) for the control of purple nutsedge and sicklepod at two growth stages. Herbicides were tested alone at 0.5.times. and 1.times. rates (1.times. being suggested use rate for these herbicides) and in combination with glyphosate at 560 (0.5.times.) and 1,120 (1.times.) g/ha on 3-wk-old plants and at 1,120 g/ha on 6-wk-old plants. Glyphosate alone, at 1,120 g/ha, gave complete control of purple nutsedge and at least 78% control of sicklepod regardless of growth stage. In 3-wk-old purple nutsedge plants, 3 of the 20 herbicide combinations were antagonistic and 17 combinations were additive, whereas all 5 combinations were additive in 6-wk-old plants. In sicklepod, 8 combinations were antagonistic and 12 combinations were additive in 3-wk-old plants, and all 5 combinations were antagonistic in 6-wk-old plants. In 3-wk-old plants, the glyphosate (0.5.times.) plus imazaquin (0.5.times.) combination resulted in highest antagonism in purple nutsedge control (79%), and the combination of glyphosate (0.5.times.) plus imazamox (0.5.times.) resulted in highest antagonism in sicklepod control (54%). Mixing chlorimuron, imazamox, imazaquin, MON 12,000, or pyrithiobac with glyphosate does not increase glyphosate efficacy on purple nutsedge or sicklepod.
ST Cyperus Senna glyphosate herbicide mixt
IT Cyperus rotundus
Senna (Cassia tora)
Weed control (herbicidal)
(Cyperus rotundus and Senna obtusifolia response to glyphosate mixts. with ALS-inhibiting herbicides)
IT 1071-83-6, Glyphosate 142275-97-6, Glyphosate-chlorimuron mixt. 142275-98-7, Glyphosate-imazaquin mixt. **242132-26-9**, Glyphosate-imazamox mixt. 244061-34-5, Glyphosate-MON 12000 mixt. 244061-36-7, Glyphosate-pyrithiobac mixt.
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(Cyperus rotundus and Senna obtusifolia response to glyphosate mixts. with ALS-inhibiting herbicides)
IT **242132-26-9**, Glyphosate-imazamox mixt.
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(Cyperus rotundus and Senna obtusifolia response to glyphosate mixts. with ALS-inhibiting herbicides)
RN 242132-26-9 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, mixt. with 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid (9CI) (CA INDEX NAME)

CM 1

CRN 114311-32-9
CMF C15 H19 N3 O4



CM 2

CRN 1071-83-6
CMF C3 H8 N O5 P

$HO_2C-CH_2-NH-CH_2-PO_3H_2$

L75 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 1999 ACS
AN 1999:215560 HCAPLUS
DN 130:233650
TI Synergistic herbicidal compositions
IN De Carvalho Castro, Kelly Neoob; Mendonca, Wilson; Malefyt, Timothy; Salzman, Frederick P.; Watkins, Robert M.
PA American Cyanamid Company, USA
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A01N057-20
ICS A01N025-02; A01N057-20; A01N043-50
CC 5-3 (Agrochemical Bioregulators)
FAN.CNT 1

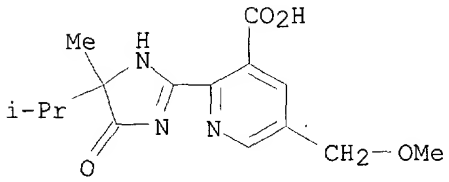
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9913723	A1	19990325	WO 1998-US18981	19980914
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9894791	A1	19990405	AU 1998-94791	19980914
	JP 11246316	A2	19990914	JP 1998-276402	19980914
PRAI	US 1997-936186		19970917		
	WO 1998-US18981		19980914		

AB Synergistic control of Ipomoea, Cyperus, Sida and Euphorbia, etc., comprises applying a combination of glyphosate and an imidazolinone deriv., such as imazethapyr, imazaquin, imazapic, imazamox and imazapyr. Further provided are synergistic herbicidal compns. comprising glyphosate and an imidazolinone compd., and specifically concd. aq. herbicidal compns. of imidazolinyl acid salts and glyphosate salts.
ST synergism herbicide compn glyphosate imidazolinone deriv
IT Synergistic herbicides
(compns. contg. glyphosate and imidazolinone deriv.)
IT Cyperus
Euphorbia
Ipomoea
Sida
(control by synergistic herbicidal compns. contg. glyphosate and imidazolinone deriv.)
IT 1071-83-6D, Glyphosate, mixt. with imidazolinone derivs. 221298-59-5, Roundup-imazethapyr mixt. 221298-60-8, Roundup-imazapic mixt. **221298-61-9**, Roundup-imazamox mixt. 221298-63-1
221298-65-3 221298-67-5 221321-46-6 221321-51-3
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(synergistic herbicidal compn.)
IT **221298-61-9**, Roundup-imazamox mixt. **221298-65-3**
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(synergistic herbicidal compn.)

RN 221298-61-9 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1), mixt. with 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid (9CI) (CA INDEX NAME)

CM 1

CRN 114311-32-9
CMF C15 H19 N3 O4

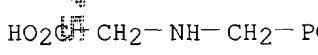


CM 2

CRN 38641-94-0
CMF C3 H9 N . C3 H8 N O5 P

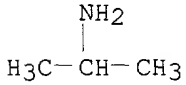
CM 3

CRN 1071-83-6
CMF C3 H8 N O5 P



CM 4

CRN 75-31-0
CMF C3 H9 N

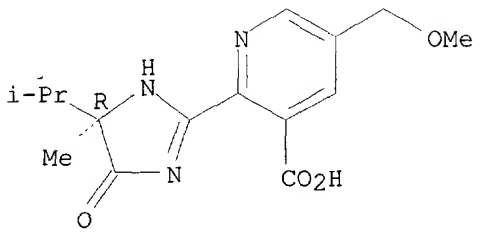


RN 221298-65-3 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1), mixt. with 2-[(4R)-4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid (9CI) (CA INDEX NAME)

CM 1

CRN 221298-64-2
CMF C15 H19 N3 O4

Absolute stereochemistry.

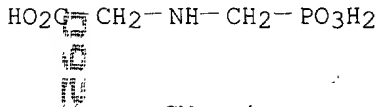


CM 2

CRN 38641-94-0
CMF C3 H9 N . C3 H8 N O5 P

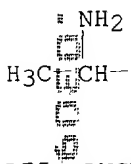
CM 3

CRN 1071-83-6
CMF C3 H8 N O5 P



CM 4

CRN 75-31-0
CMF C3 H9 N



L75 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 1999 ACS
AN 1990:32084 HCAPLUS
DN 112:32084
TI Antagonism of **glyphosate** toxicity to johnsongrass (Sorghum halepense) by 2,4-D and dicamba
AU **Flint, Jerry L.**; Barrett, Michael
CS Dep. Agron., Univ. Kentucky, Lexington, KY, 40545-009, USA
SO Weed Sci. (1989), 37(5), 700-5
CODEN: WEESA6; ISSN: 0043-1745
DT Journal
LA English
CC 5-3 (Agrochemical Bioregulators)
AB Greenhouse studies were conducted to det. the basis for reduced johnson grass control when **glyphosate** was applied in mixts. with 2,4-D or dicamba. **Glyphosate** was applied to johnson grass at 0.28, 0.56, 0.84, and 1.12 kg/ha alone and in combination with 2,4-D or dicamba at 0.14, 0.28, 0.14, or 0.56 kg/ha. Johnson grass shoot and root fresh wts. measured 4 wk after treatment were higher when **glyphosate** was applied with 2,4-D (0.28 kg/ha plyphosate) or dicamba (0.28 kg/ha or 0.56 kg/ha **glyphosate**) compared to **glyphosate** applied alone at these rates. The antagonism of johnson grass control was not obsd. with combinations of some of the higher **glyphosate** rates with 2,4-D (0.56 or 0.84 kg/ha **glyphosate**) or dicamba (0.84 or 1.12 kg/ha **glyphosate**). The redn. of **glyphosate** activity on johnson grass occurred when any of four forms of 2,4-D or two forms of dicamba were added to the **glyphosate** spray mixt. **Glyphosate** uptake into johnson grass leaves and subsequent

translocation to the roots was reduced by the presence of 2,4-D or dicamba. The reduced **glyphosate** uptake and translocation could account for the decreased toxicity of **glyphosate** to johnson grass when applied with 2,4-D or dicamba.
ST johnson grass control glyphosphate dichlorophenoxyacetate dicamba
IT Johnson grass
(control of, by glyphosphate, 2,4-D and dicamba antagonism of)
IT Weed control
(of johnson grass, by glyphosphate, 2,4-D and dicamba antagonism of)
IT 94-75-7, 2,4-D, biological studies 1918-00-9, Dicamba
RL: BIOL (Biological study)
(johnson grass control by glyphosphate antagonism by)
IT **1071-83-6**
RL: BIOL (Biological study)
(johnson grass control by, 2,4-D and dicamba antagonism of)
IT **1071-83-6**
RL: BIOL (Biological study)
(johnson grass control by, 2,4-D and dicamba antagonism of)
RN 1071-83-6 HCAPLUS
CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

$HO_2C-CH_2-NH-CH_2-PO_3H_2$

L75 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 1999 ACS
AN 1989:149765 HCAPLUS
DN 110:149765
TI Effects of **glyphosate** combinations with 2,4-D or Dicamba on field bindweed (Convolvulus arvensis)
AU **Flint, Jerry L.**; Barrett, Michael
CS Dep. Agron., Univ. Kentucky, Lexington, KY, 40546-0091, USA
SO Weed Sci. (1989), 37(1), 12-18
CODEN: WEESA6; ISSN: 0043-1745
DT Journal
LA English
CC 5-3 (Agrochemical Bioregulators)
AB Applications of isopropylamine **glyphosate** at 0.28, 0.56, 0.84, and 1.12 kg active ingredient/ha in combination with the dimethylamine salts of 2,4-D or dicamba at 0.14, 0.28, 0.4i, and 0.56 kg active ingredient/ha produced additive or synergistic field bindweed control compared to the herbicides applied alone. Leaf and root growth was inhibited more from herbicide combinations than would be predicted from the effects of the chems. applied alone at the same rate. The uptake of 14C from **glyphosate** into the treated leaf and its accumulation in roots increased when 2,4-D or dicamba was combined with the 0.28 kg/ha rate of [14C]**glyphosate**. The combination of 2,4-D or dicamba with a higher (0.84 kg/ha) [14C]**glyphosate** rate did not change total absorption of 14C from **glyphosate**. However, compared to 0.84 kg/ha of [14C]**glyphosate** applied alone, less 14C accumulated above the treated leaf and more accumulated in the roots when 2,4-D was added to the **glyphosate**. The combination of **glyphosate** with 2,4-D or dicamba generally resulted in both increased uptake of 14C from 2,4-D or dicamba and greater accumulation in the roots. The additive or synergistic field bindweed control obsd. from mixts. of **glyphosate** with 2,4-D or dicamba appeared to be due to greater accumulation of the herbicides in the roots.
ST **glyphosate** dichlorophenoxyacetate dicamba field bindweed control
IT Convolvulus arvensis
(control of, by **glyphosate** combination with 2,4-D or dicamba)
IT Weed control
(of field bindweed, with **glyphosate** combinations with 2,4-D or dicamba)
IT Biological transport
(absorption, of **glyphosate** combinations with 2,4-D or

dicamba, in field bindweed, control in relation to)
IT 2008-39-1 2300-66-5, Dicamba dimethylamine salt 38641-94-0
75547-81-8 75553-94-5
RL: BIOL (Biological study)
(field bindweed control by)